

reassigning the data to a new location address when the command to write and verify the data transfer is unsuccessful; and wherein the error table comprises a combined write recovery table and bad data table.

2.(Original) The method of claim 1 wherein the error table records error locations on a disk drive.

3.(Original) The method of claim 1 further comprising transferring the data to the specified location address when a good status is returned in response to the command to write and verify the data transfer.

Cancel claim 4.

Cancel claim 5.

6.(Original) The method of claim 1 wherein the command to write and verify the data transfer comprises a write/verify command.

7.(Original) The method of claim 1 wherein the command to write and verify the data transfer comprises a write command followed by a read command with the force unit access bit being set to 1 to force the data to be read from the disk drive rather than from disk drive cache.

8.(Original) The method of claim 1 wherein the command to write and verify the data transfer is unsuccessful only when a predetermined number of write and verify retries is exhausted.

9.(Currently Amended) A method for handling write errors in a non-redundant disk

array storage system, comprising:

issuing a command to write and verify data transfer when requested to write data to a  
specified location address that is stored in an error table;

reassigning the data to a new location address when the command to write and verify the  
data transfer is unsuccessful; ~~The method of claim 1 further comprising:~~

verifying the reassigning of data to a new location address;

detecting an error for the reassigning;

retrying the reassigning for a predetermined number of times; and

returning a fatal error status and marking the disk offline when the predetermined number  
of times is exhausted.

10.(Original) The method of claim 1 further comprising deleting the specified location  
address that is stored in the error table when the reassign of data is successful.

11.(Original) The method of claim 1 further comprising deleting the specified location  
address that is stored in the error table when the command to write and verify the data transfer is  
successful.

12.(Currently Amended) A storage system, comprising:

an array of storage devices; and

a storage controller, coupled to the array of storage devices, the storage controller  
including a memory for maintaining an error table, the storage controller further being configured

to issue a command to write and verify data transfer when requested to write data to a specified location address that is stored in an error table and reassign the data to a new location address when the command to write and verify the data transfer is unsuccessful; and wherein the error table comprises a combined write recovery table and bad data table.

13.(Original) The storage system of claim 12 wherein the error table records data error locations on a disk drive.

14.(Original) The storage system of claim 12 wherein the controller transfers the data to the specified location address when a good status is returned in response to the command to write and verify the data transfer.

Cancel claims 15 & 16.

17.(Original) The storage system of claim 12 wherein the command to write and verify the data transfer comprises a write/verify command.

18.(Original) The storage system of claim 12 wherein the command to write and verify the data transfer comprises a write command followed by a read command with the force unit access bit being set to 1 to force the data to be read from the storage device rather than from cache of the storage controller.

19.(Original) The storage system of claim 12 wherein the command to write and verify the data transfer is unsuccessful only when a predetermined number of write and verify retries is exhausted.

20.(Currently Amended) A storage system, comprising:

an array of storage devices; and

a storage controller, coupled to the array of storage devices, the storage controller

including a memory for maintaining an error table, the storage controller further being

configured to issue a command to write and verify data transfer when requested to write data to

a specified location address that is stored in an error table and reassign the data to a new

location address when the command to write and verify the data transfer is unsuccessful; and

~~The storage system of claim 12~~ wherein the storage controller further verifies the reassigning of data to a new location address, detects an error for the reassigning, retries the reassigning for a predetermined number of times, returns a fatal error status and marks the storage device offline when the predetermined number of times is exhausted.

21.(Original) The storage system of claim 12 wherein the storage controller deletes the specified location address that is stored in the error table when the reassign of data is successful.

22.(Original) The storage system of claim 12 wherein the storage controller deletes the specified location address that is stored in the error table when the command to write and verify the data transfer is successful.

23.(Currently Amended)      An error table disposed in a storage controller, the error table configured with addresses for data error locations on a storage device so that for a write request, the storage controller knows to perform a write and verify command to transfer the data to the storage device and to verify the successful transfer of the data to the storage device; said error table further comprising a write recovery bit to indicate when an address associated therewith requires a write recovery during a write; and wherein the write recovery bit allows a bad data table to be combined with the write recovery table.

Cancel claims 24 - 25.

26.(Currently Amended)      The error table of claim 23~~5~~ wherein on a read the error table is searched only for an address specified in a read request together with an associated write recovery bit being set to 0.

Cancel claims 27-29.

Please enter new claim 30 as follows:

30.(New)      A computer program product for handling write errors in a non-redundant disk array storage system, said program product comprising:

    a computer readable medium;

    first program instructions to issue a command to write and verify data transfer when requested to write data to a specified location address that is stored in an error table;

    second program instructions to reassign the data to a new location address when the command to write and verify the data transfer is unsuccessful;

third program instructions to verify the reassignment of data to a new location address;

fourth program instructions to detect an error for said reassignment;

fifth program instructions to retry said reassignment for a predetermined number of times;

•  
and

•  
sixth program instructions to return a fatal error status and mark the disk offline when the predetermined number of times is exhausted; and wherein

said first, second, third, fourth, fifth and sixth program instructions are recorded on said medium.